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| 10/585,002 | 06/29/2006 | Shinji Hotta | 2006_0984A | 4959 |

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| EXAMINER | |
|---|---|
| ANGLO, LHEIREN MAE ACOSTA | |

| ART UNIT | PAPER NUMBER |
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| 2832 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/585,002 | HOTTA ET AL. | |
| | Examiner | Art Unit | |
| | LHEIREN MAE A. ANGLO | 2832 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *45-70* is/are pending in the application.

4a) Of the above claim(s) *54-56,62 and 63* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *45-53 and 64-67* is/are rejected.

7)☒ Claim(s) *57-61 and 68-70* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20090331 and 20081230*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 45,46 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanabe [US 5,871,088].

In regard to claim 45, Tanabe teaches in [Fig. 2] an EL sheet comprising: a counter electrode layer [7]; a dielectric layer [6]; a light-emitting layer [5]; a transparent electrode layer [4] made of an electroconductive polymer; and a sheet base member [3], wherein a light-transmitting adhesive layer is disposed between the transparent electrode layer made of the electroconductive polymer and the light-emitting layer, the light-transmitting adhesive layer [col. 2, lines 44-48] having adhesiveness with respect to the electroconductive polymer.

In regard to claim 46, Tanabe teaches in [Fig. 2 and col. 2, lines 44-48] that the light-transmitting adhesive layer comprises a first light-transmitting adhesive layer, the EL sheet further comprising: a second light-transmitting adhesive layer disposed between the transparent electrode layer made of the electroconductive polymer and the sheet base member, the second light-transmitting adhesive layer having adhesiveness with respect to the electroconductive polymer.

In regard to claim 53, Tanabe teaches in [Fig. 2] a portion of the EL sheet being formed into a convex shape projecting from a rear side near the counter electrode layer to a top side near the transparent electrode layer; and a core material having a key top shape being filled into a concave portion of the rear side of the convex shape.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe [US 5,871,088] in view of Fitzgerald et al. [Fitzgerald hereinafter, US 6,858,811].

In regard to claim 47, Tanabe teaches in [Fig. 2] an EL sheet comprising: a counter electrode layer [7]; a dielectric layer [6]; a light-emitting layer [5]; a transparent electrode layer [4] made of an electroconductive polymer; and a sheet base member [3]. Tanabe does not teach that at least one resin-base binder is selected from a group consisting of a polyester-base binder, an acrylic binder, a cyanoacrylate-base binder and an ethylene-vinyl acetate-base binder or a synthetic rubber-base binder represented by urethane is disposed between the transparent electrode layer made of electroconductive polymer and the light-emitting layer. Fitzgerald teaches in [col. 21, lines 60+] a resin-base binder selected from the above mentioned group. It would have

been obvious to one of ordinary skill in the art at the time of the invention was made to provide a resin-base binder selected from a group of those materials, since they comprise basic chemicals used in manufacturing plastics.

In regard to claim 48, Tanabe teaches in [Fig. 2] at least one resin-base binder disposed between the transparent electrode layer made of electroconductive polymer and the sheet member. Tanabe does not teach that the resin-base binder is selected from a group consisting of a polyester-base binder, an acrylic binder, a cyanoacrylate-base binder and an ethylene-vinyl acetate-base binder or a synthetic rubber-base binder represented by urethane. Fitzgerald teaches in [col. 21, lines 60+] a resin-base binder selected from the above mentioned group. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a resin-base binder selected from a group of those materials, since they comprise basic chemicals used in manufacturing plastics.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe [US 5,871,088] in view of Amari et al. [Amari hereinafter, US 7,407,708]. Tanabe teaches in [Fig. 2] a binder for at least one of the dielectric layer and the light-emitting layer. Tanabe does not teach that the binder is a fluororesin. Amari teaches in [col. 2, lines 11+] a binder that is a fluororesin. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use fluororesin as a binder in order to create a smooth surface.

Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe [US 5,871,088] in view of Amari et al. [Amari hereinafter, US 7,407,708] further in view

of Fitzgerald et al. [Fitzgerald hereinafter, US 6,858,811]. Tanabe teaches in [Fig. 2] a binder for the light-emitting layer. Tanabe does not teach a fluororesin as a binder for the dielectric layer. Amari teaches in [col. 2, lines 11+] a binder that is a fluororesin. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use fluororesin as a binder in order to create a smooth surface. Tanabe and Amari do not teach a polyester-base resin or an acrylic resin is used as a binder for the light-emitting layer. Fitzgerald teaches in [col. 21, lines 60+] a resin-base binder selected from the above mentioned group. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a resin-base binder selected from a group of those materials, since they comprise basic chemicals used in manufacturing plastics.

Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe [US 5,871,088] in view of Fang et al. [Fang hereinafter, US 7,399,519]. Tanabe teaches in [Fig. 2] the EL sheet according to claim 45 as well as a material disposed between the layers. Tanabe does not teach that the material is an ion-exchange material, wherein the ion-exchange material is a cationic or an amphoteric material, and wherein the ion-exchange material is a zirconium type, antimony type or bismuth type material. Fang teaches in [col. 3, lines 16+] an ion-exchange material, wherein the ion-exchange material is a cationic or an amphoteric material, and wherein the ion-exchange material is a zirconium type, antimony type or bismuth type material. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an ion-exchange material selected from the above group in order to control bacterial growth.

Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe [US 5,871,088] in view of Fitzgerald et al. [Fitzgerald hereinafter, US 6,858,811] further in view of Amari et al. [Amari hereinafter, US 7,407,708] further in view of Fang et al. [Fang hereinafter, US 7,399,519]. Tanabe teaches in [Fig. 2] a binder as well as a material disposed between the layers. Tanabe does not teach a polyester-base resin or an acrylic resin is used as a binder for the light-emitting layer. Fitzgerald teaches in [col. 21, lines 60+] a resin-base binder selected from the above mentioned group. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a resin-base binder selected from a group of those materials, since they comprise basic chemicals used in manufacturing plastics. Tanabe and Fitzgerald do not teach that a fluororesin is used as a binder. Amari teaches in [col. 2, lines 11+] a binder that is a fluororesin. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use fluororesin as a binder in order to create a smooth surface. Tanabi, Amari, and Fitzgerald do not teach that the material is an ion-exchange material, wherein the ion-exchange material is a cationic or an amphoteric material, and wherein the ion-exchange material is a zirconium type, antimony type or bismuth type material. Fang teaches in [col. 3, lines 16+] an ion-exchange material, wherein the ion-exchange material is a cationic or an amphoteric material, and wherein the ion-exchange material is a zirconium type, antimony type or bismuth type material. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an ion-exchange material selected from the above group in order to control bacterial growth.

In regard to claims 64-67, Tanabe discloses the claimed invention except for having an amount of the ion-exchange material is within a range of 0.1-10% or 0.1-15%. it would have been obvious to one having ordinary skill in the art at the time the invention was made to have an amount of the ion-exchange material be between a range of 0.1-10% or 0.1-15%, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### *Allowable Subject Matter*

Claims 57-61 and 68-70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regard to claims 57 and 70, the references do not teach that a binder for the light-emitting layer is different from that of the dielectric layer and the electroconductive polymer, the binder for the light-emitting layer having adhesiveness with respect to the electroconductive polymer. Claims 58-61,68 and 69 are either directly or indirectly dependent on claim 57.

### *Response to Arguments*

Applicant's arguments, filed 1/02/09, with respect to the rejection(s) of claim(s) 45 35 U.S.C. 102(b) and 47 under 35 U.S.C. 103(a) have been fully considered and are

persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tanabe [US 5,871,088].

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LHEIREN MAE A. ANGLO whose telephone number is (571)272-2730. The examiner can normally be reached on Monday to Friday 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. A. A./

Examiner, Art Unit 2832

/TUYEN T NGUYEN/
Primary Examiner, Art Unit 2832